



MPD

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of B. McArthur et al.

Application No.: 10/039,426

Filed: January 4, 2002

Conf. No.: 8965

For: METHOD AND APPARATUS FOR
PROPER ORDERING OF
REGISTRATION DATA

CERTIFICATE OF MAILING PURSUANT TO 37 CFR 1.8
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Michele Melendez

RESPONSE TO NOTICE TO FILE MISSING PARTS OF APPLICATION

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Sir:

In response to the Notice to File Missing Parts of Application mailed February 7, 2001, the following documents are submitted with this Response:

- 1) A copy of the Notice to File Missing Parts;
- 2) A check in the amount of \$65.00 to cover the surcharge;
- 3) Declaration for Patent Application;
- 4) Substitute Drawings (16 sheets); and
- 5) Return Postcard for this transmittal.



The Commissioner is hereby authorized to charge any fee, including any submitted herewith if the attached check(s) is in the wrong amount or otherwise improper or missing, that may be due in connection with this and the attached papers, or with this application during its entire pendency to or to credit any overpayment to Deposit Account No. 50-1213. A duplicate of this sheet is enclosed.

Respectfully submitted,

David A. Hall
Reg. No. 32,233

Heller Ehrman White & McAuliffe LLP
4350 La Jolla Village Drive, 6th Floor
San Diego, California 92122-1246
Telephone: (858) 450-8400

APR 08 2002



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Mirabelle McAuliffe

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APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/039,426	01/04/2002	B. McArthur	38203-6079



CONFIRMATION NO. 8965
FORMALITIES LETTER



OC00000007455122

David A. Hall
Heller Ehrman White & McAuliffe LLP
7th Floor
4350 La Jolla Village Drive
San Diego, CA 92122-1246

Date Mailed: 02/11/2002

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is missing.
A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(l) of \$65 for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this letter.
- **The balance due by applicant is \$ 65.**

The application is informal since it does not comply with the regulations for the reason(s) indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Substitute drawings in compliance with 37 CFR 1.84 because:
 - drawing sheets do not have the appropriate margin(s) (see 37 CFR 1.84(g)). Each sheet must include a top margin of at least 2.5 cm. (1 inch), a left side margin of at least 2.5 cm. (1 inch), a right side margin of at least 1.5 cm. (5/8 inch), and a bottom margin of at least 1.0 cm. (3/8 inch);

04/09/2002 YPOLITE1 00000004 10039426

01 FC:205

65.00 OP

A copy of this notice MUST be returned with the reply.

Meserve/K

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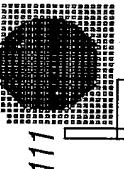
Initial Patent Examination Division (703) 308-1202

PART 2 - COPY TO BE RETURNED WITH RESPONSE

mm = millimeters, um = microns

 Reticle alignment mark

Repeat



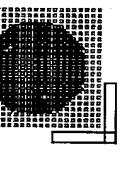
111

3.26 mm

3.26 mm

11

11



P



P=Pitch - 10nm

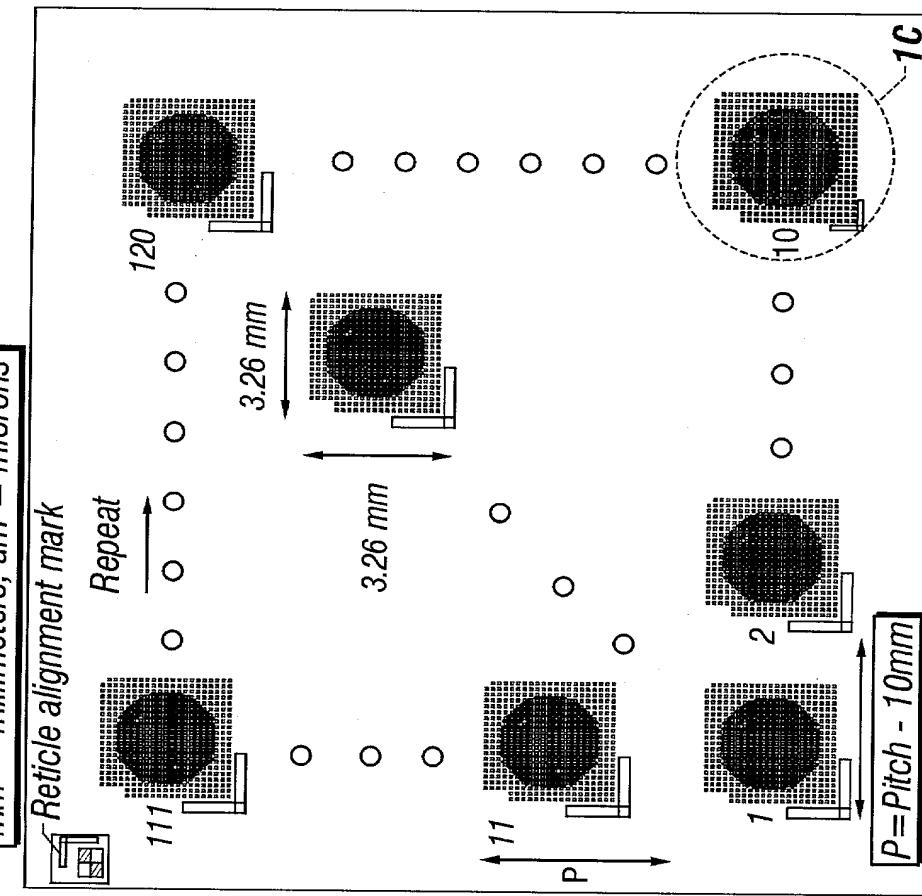


FIG. 1A

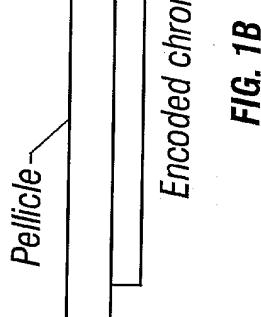


FIG. 1B

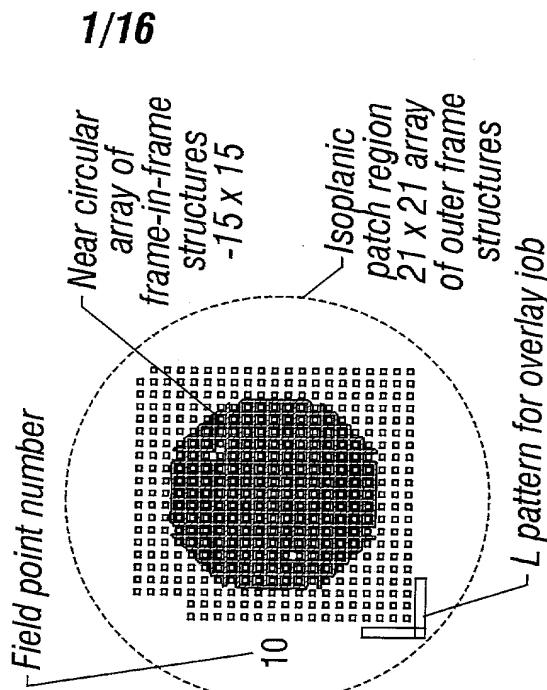
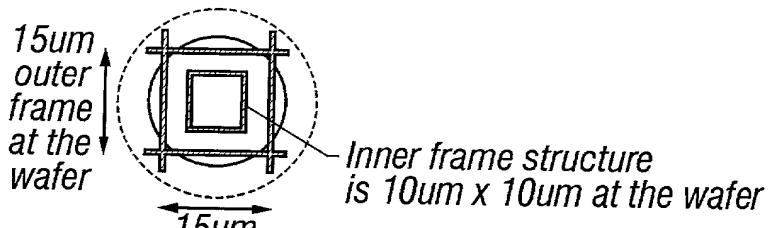
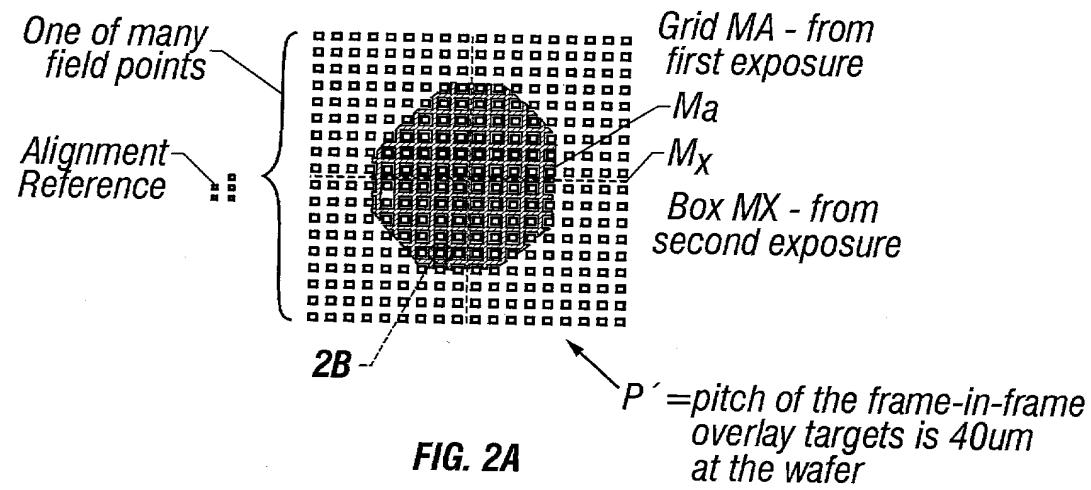
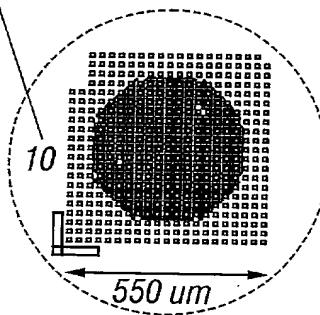
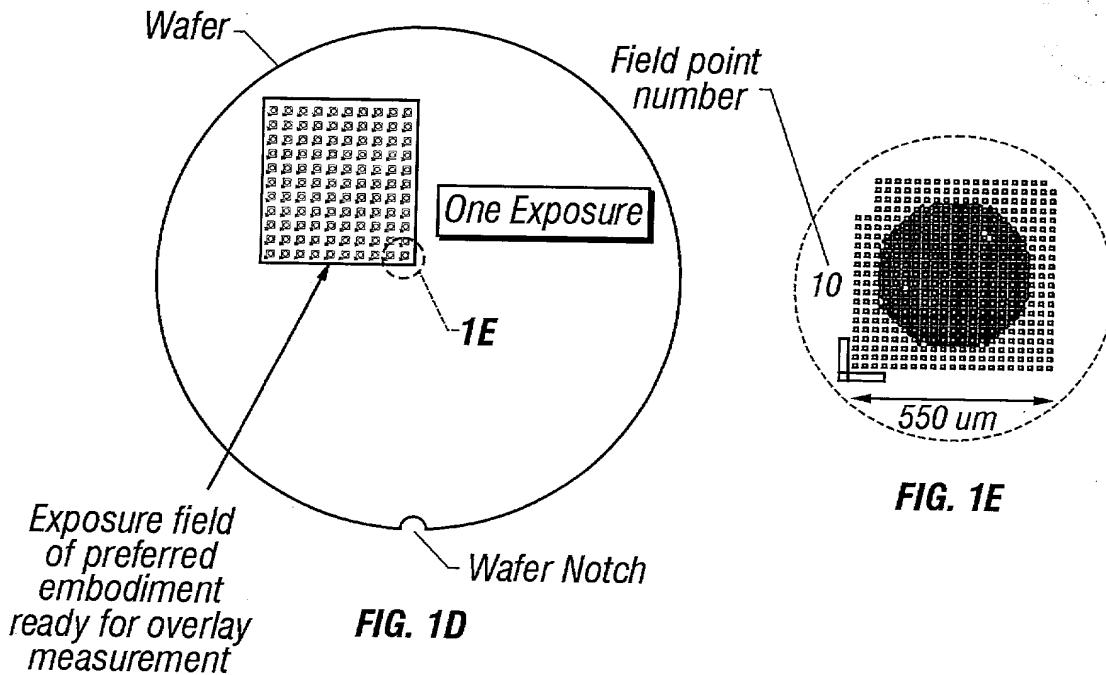


FIG. 1C

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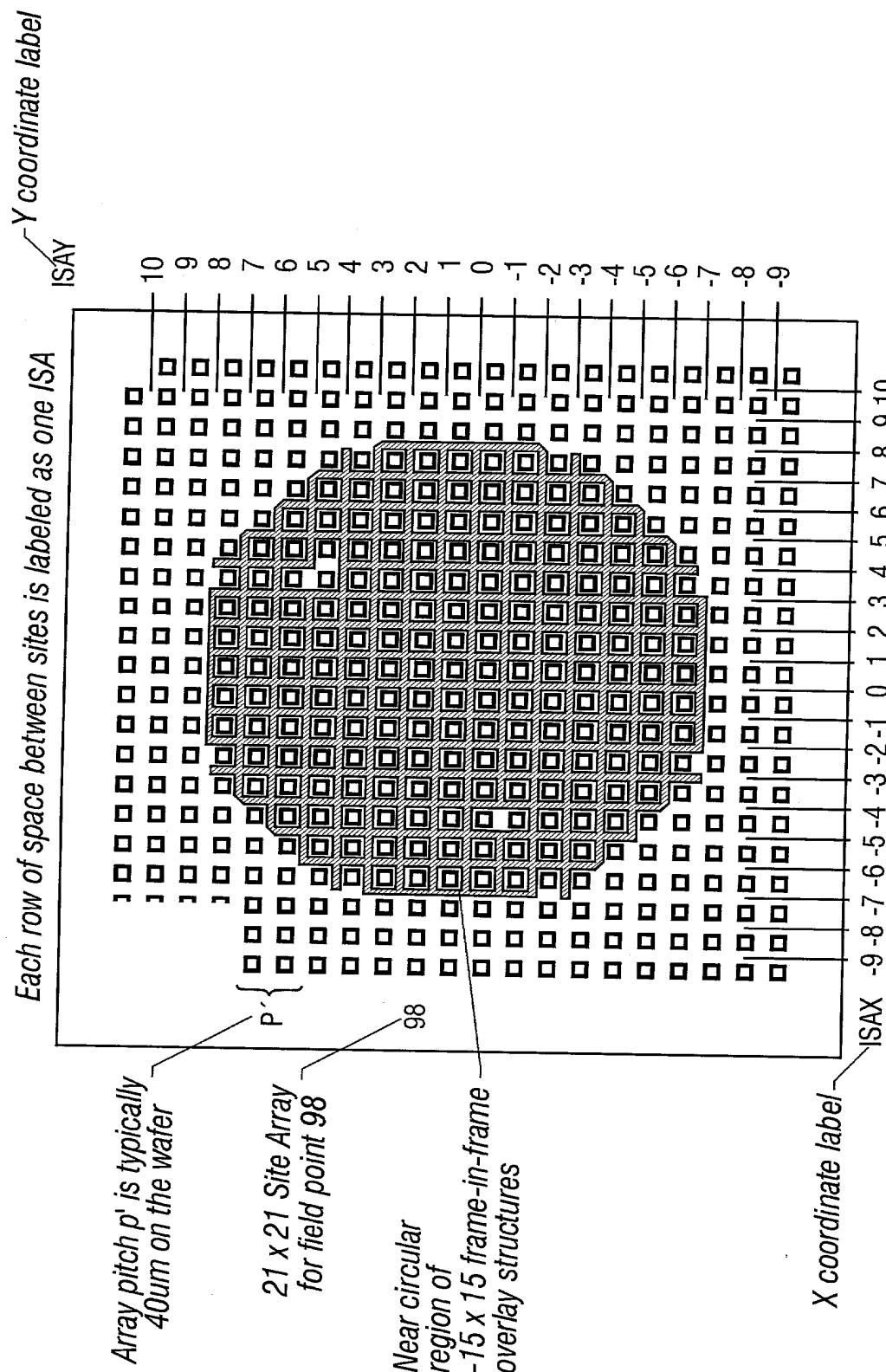
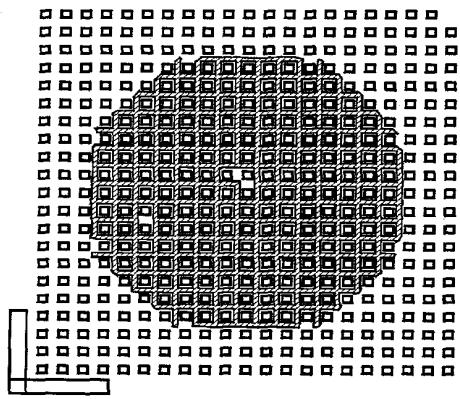
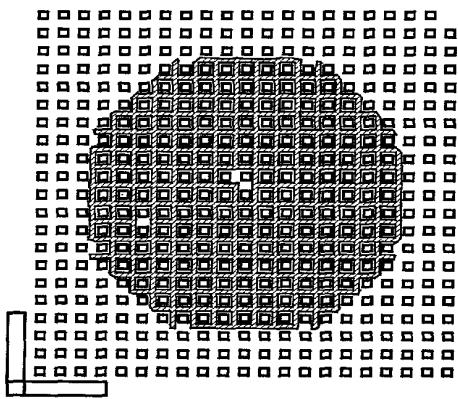


FIG. 3

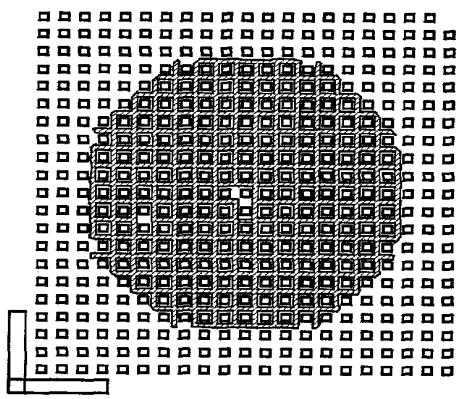
4/16



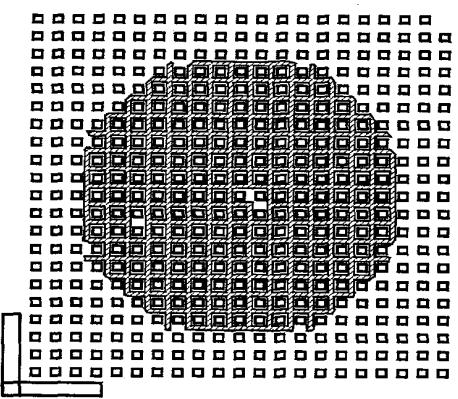
65



66



55



56

FIG. 4A

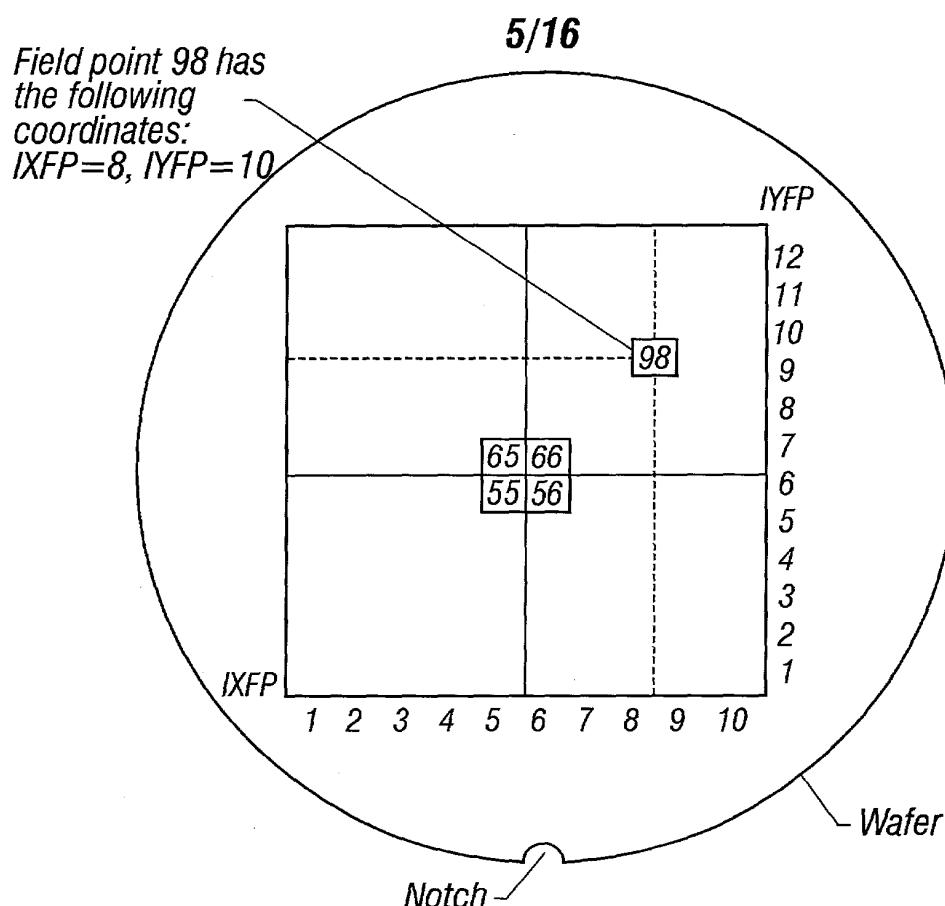


FIG. 4B

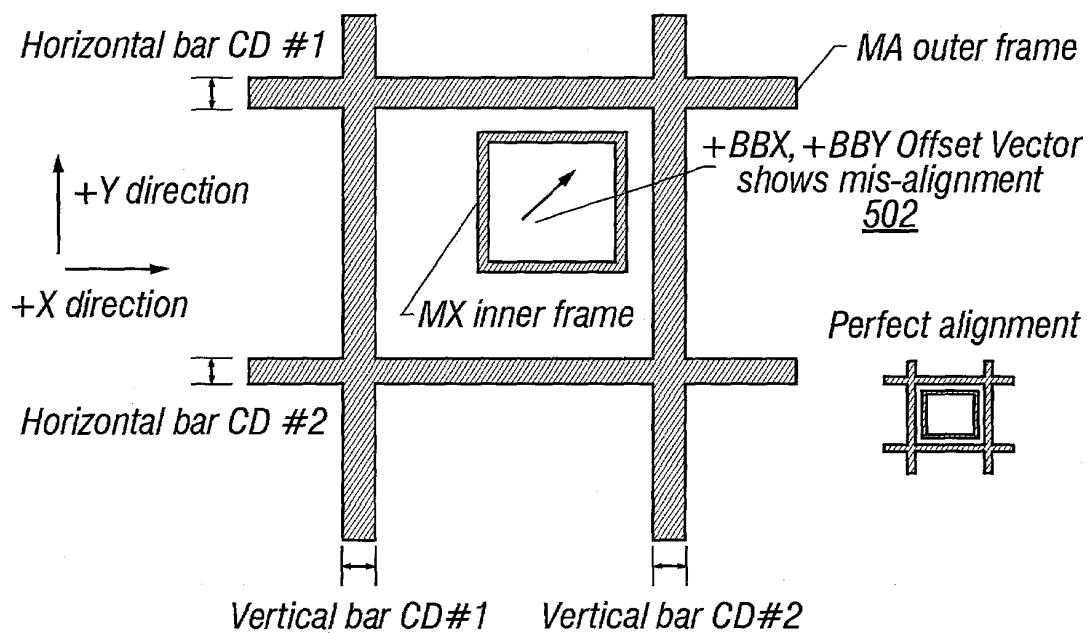


FIG. 5A

*Typical field point array
for the "IS" reticle
as printed on a wafer*

*CD(near edge) < CD(near center)
Frame on edge is thinner than center*

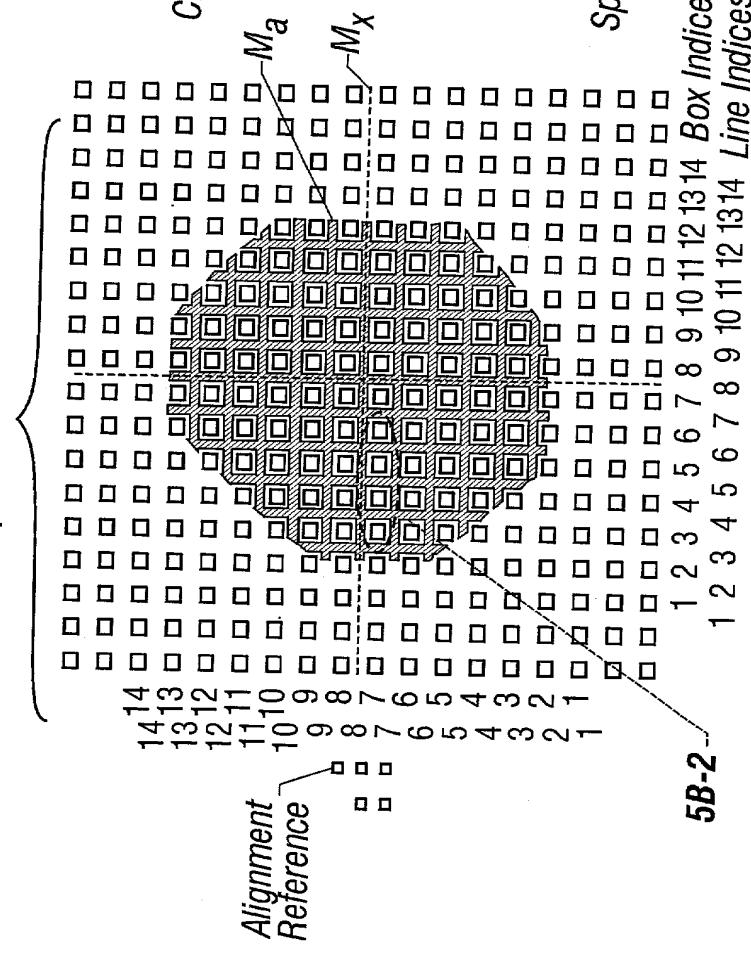


FIG. 5B-1

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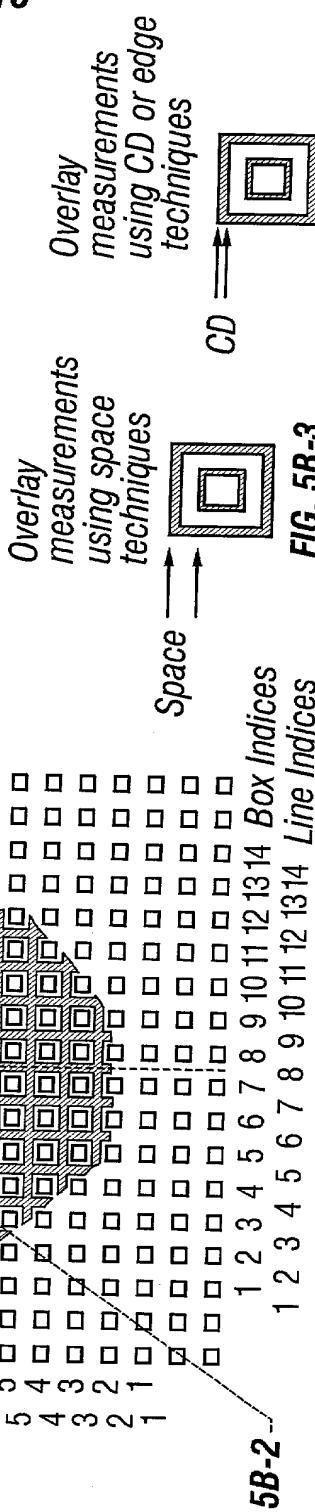


FIG. 5B-4

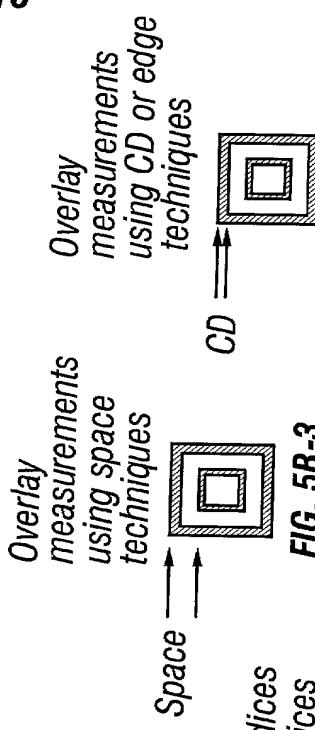
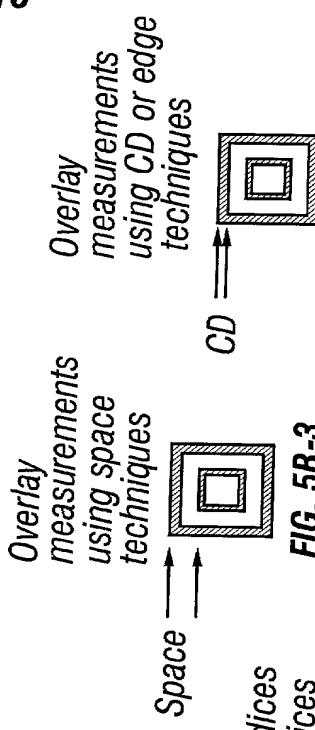
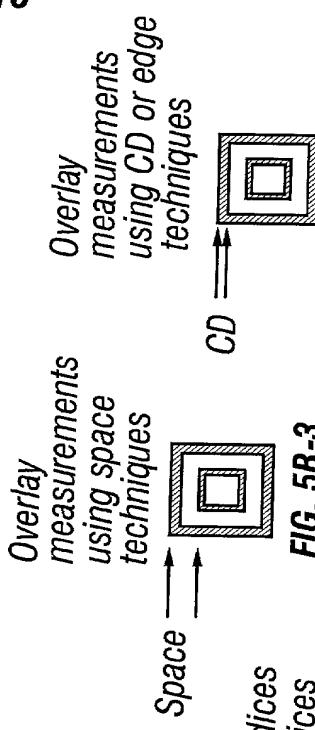


FIG. 5B-4



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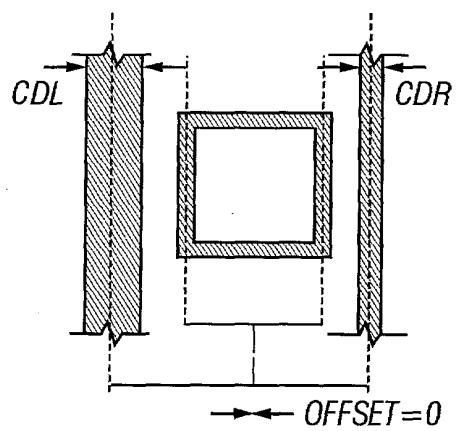


FIG. 5C

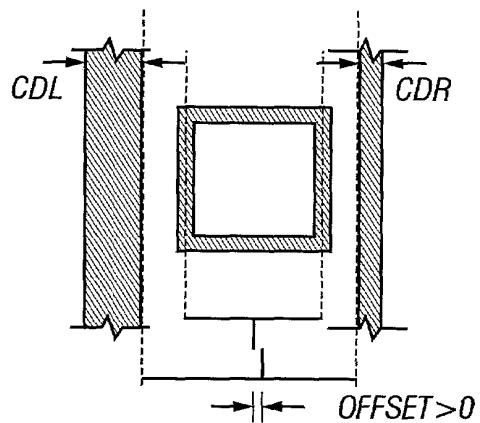


FIG. 5D

10032426 011201

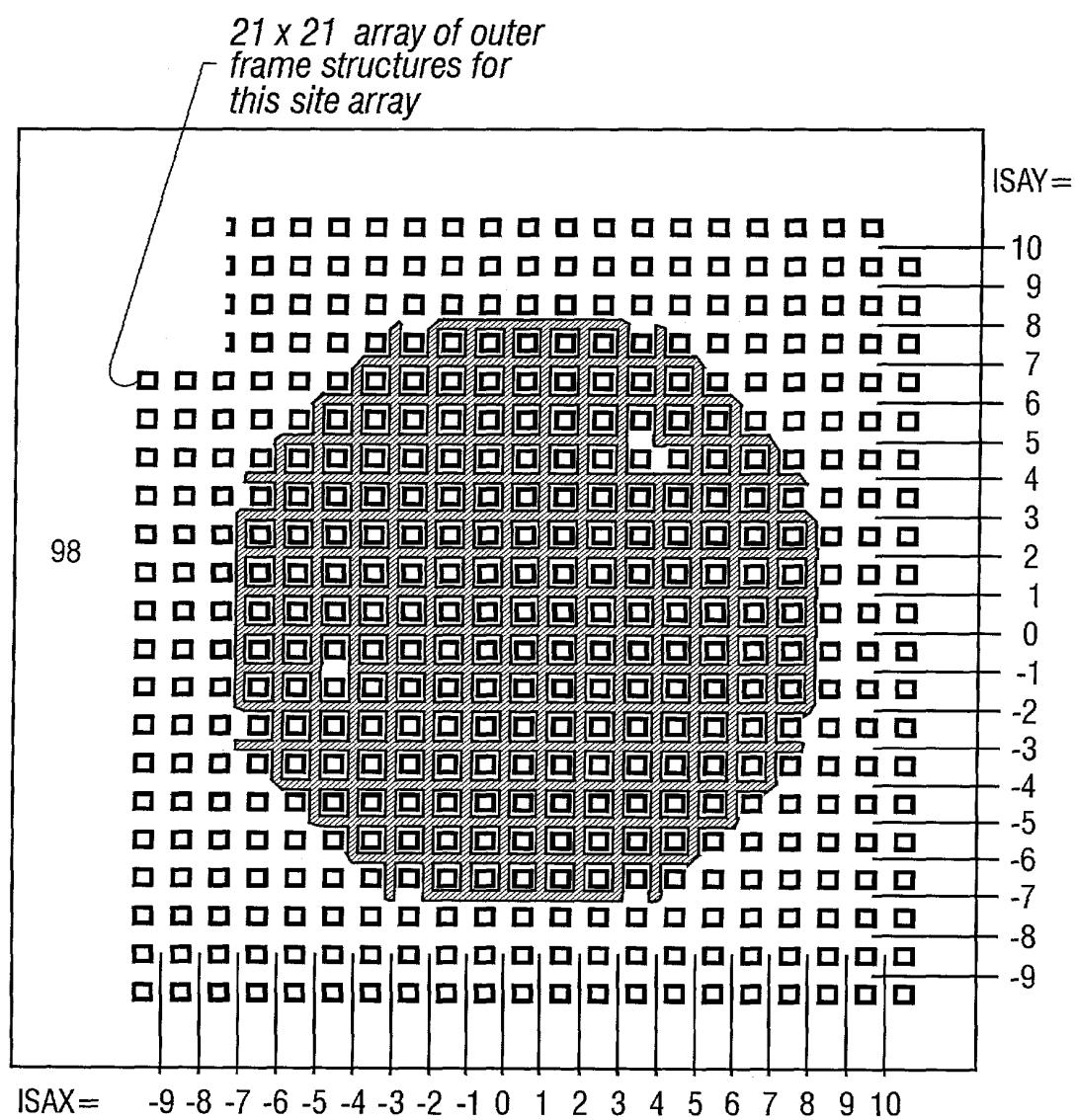


FIG. 6

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
		BBx	BBy																			
18	18	-0.313	0.250	0.188	0.125	0.063	0.1875	-0.1875	-0.1875	-0.1875	-0.1875	-0.1875	-0.1875	-0.1875	-0.1875	-0.1875	-0.1875	-0.1875	-0.1875	-0.1875	-0.1875	
17	17	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
16	16	0.500	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
15	15	0.563	0.500	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
14	14	0.625	0.563	0.500	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
13	13	0.625	0.625	0.563	0.500	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
12	12	0.625	0.563	0.500	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
11	11	0.625	0.625	0.563	0.500	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
10	10	0.625	0.563	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
9	9	0.625	0.625	0.563	0.500	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
8	8	0.563	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	
7	7	0.563	0.500	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
6	6	0.500	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
5	5	0.438	0.375	0.313	0.250	0.188	0.125	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
4	4	0.625	0.625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	0.5625	

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FIG. 7

$$\begin{aligned}
 FP &= 98 \\
 IX_0 &= 14 \\
 NY_0 &= 15 \\
 DS/DSQ_W &= 0.0625
 \end{aligned}$$

IX_0 =position within 21×21 array where $(BBx, BBy) = (0,0)$ occurs
 IY_0
 FP =field point number

 $IY=Row$

	7	8	9	10	11	12	13	14	15	16
12	17	17	17	17	17	17	17	17	17	17
	111	112	113	114	115	116	117	118	119	120
11	7	8	9	10	11	12	13	14	15	16
	16	16	16	16	16	16	16	16	16	16
	101	102	103	104	105	106	107	108	109	110
10	7	8	9	10	11	12	13	14	15	16
	15	15	15	15	15	15	15	15	15	15
	91	92	93	94	95	96	97	98	99	100
9	7	8	9	10	11	12	13	14	15	16
	14	14	14	14	14	14	14	14	14	14
	81	82	83	84	85	86	87	88	89	90
8	7	8	9	10	11	12	13	14	15	16
	13	13	13	13	13	13	13	13	13	13
	71	72	73	74	75	76	77	78	79	80
7	7	8	9	10	11	12	13	14	15	16
	12	12	12	12	12	12	12	12	12	12
	61	62	63	64	65	66	67	68	69	70
6	7	8	9	10	11	12	13	14	15	16
	11	11	11	11	11	11	11	11	11	11
	51	52	53	54	55	56	57	58	59	60
5	7	8	9	10	11	12	13	14	15	16
	10	10	10	10	10	10	10	10	10	10
	41	42	43	44	45	46	47	48	49	50
4	7	8	9	10	11	12	13	14	15	16
	9	9	9	9	9	9	9	9	9	9
	31	32	33	34	35	36	37	38	39	40
3	7	8	9	10	11	12	13	14	15	16
	8	8	8	8	8	8	8	8	8	8
	21	22	23	24	25	26	27	28	29	30
2	7	8	9	10	11	12	13	14	15	16
	7	7	7	7	7	7	7	7	7	7
	11	12	13	14	15	16	17	18	19	20
1	7	8	9	10	11	12	13	14	15	16
	6	6	6	6	6	6	6	6	6	6
	1	2	3	4	5	6	7	8	9	10
	1	2	3	4	5	6	7	8	9	10

 $IY=Row$

FIG. 8

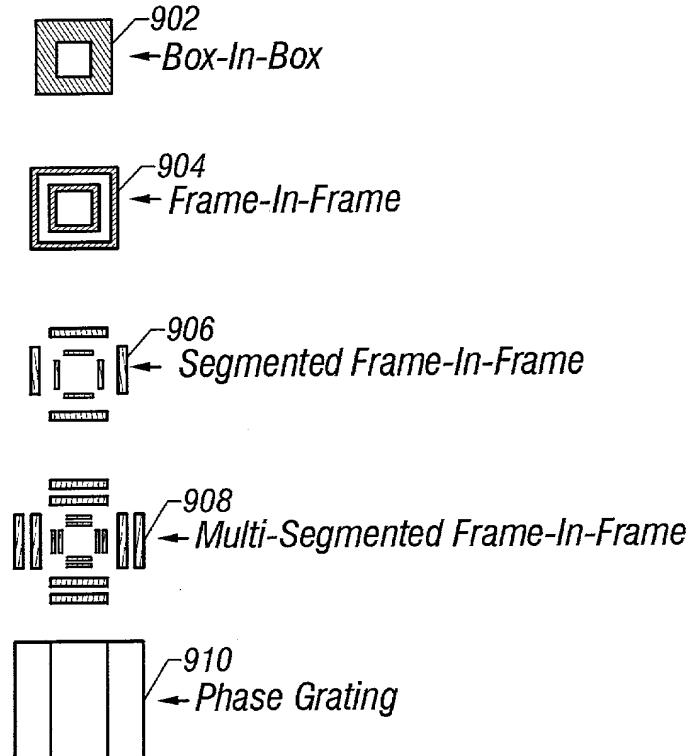


FIG. 9

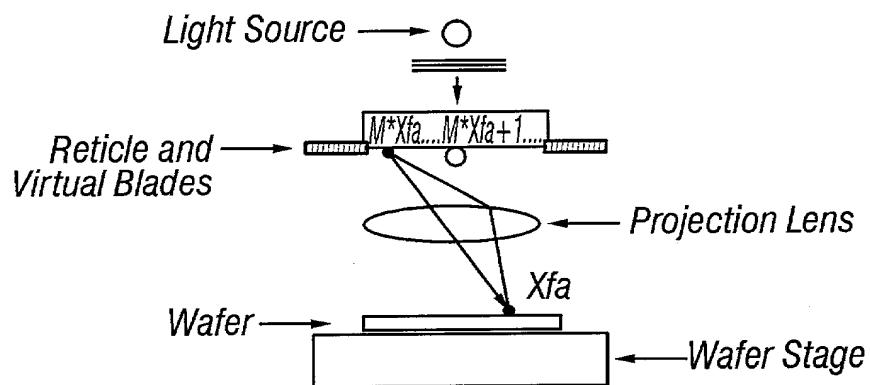


FIG. 10

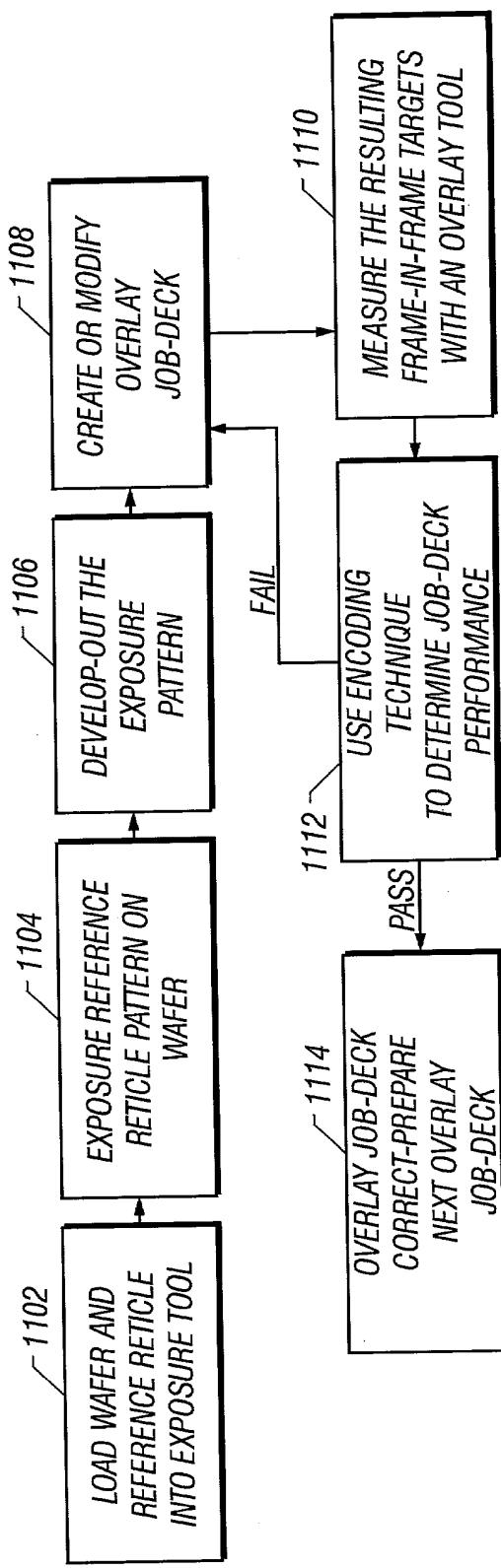


FIG. 11

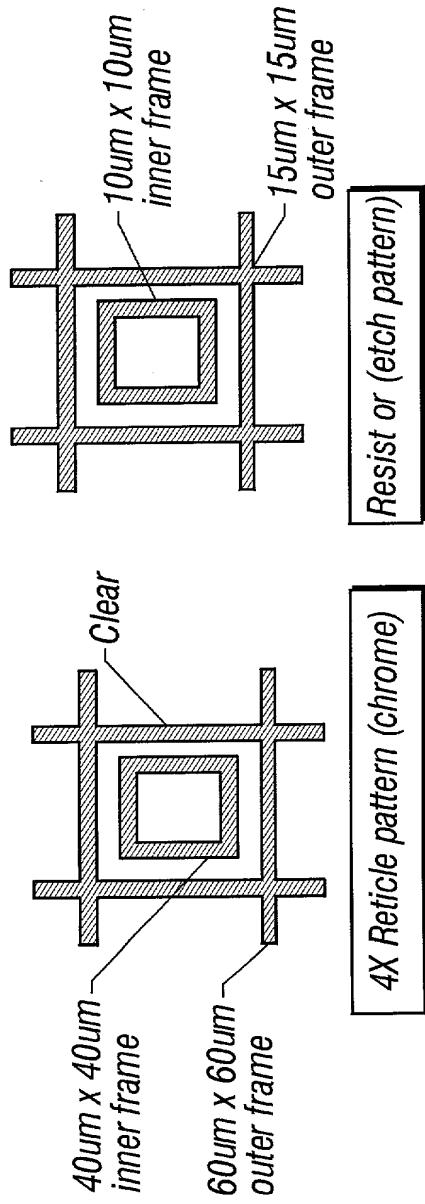
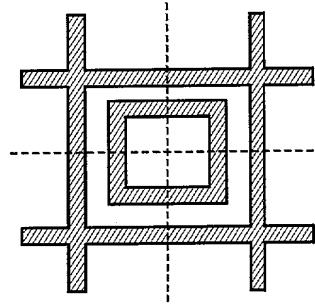


FIG. 12



Centered Frame-in-Frame structure
No shift: $ISAX = 0, ISAY = 0$

FIG. 13

14/16

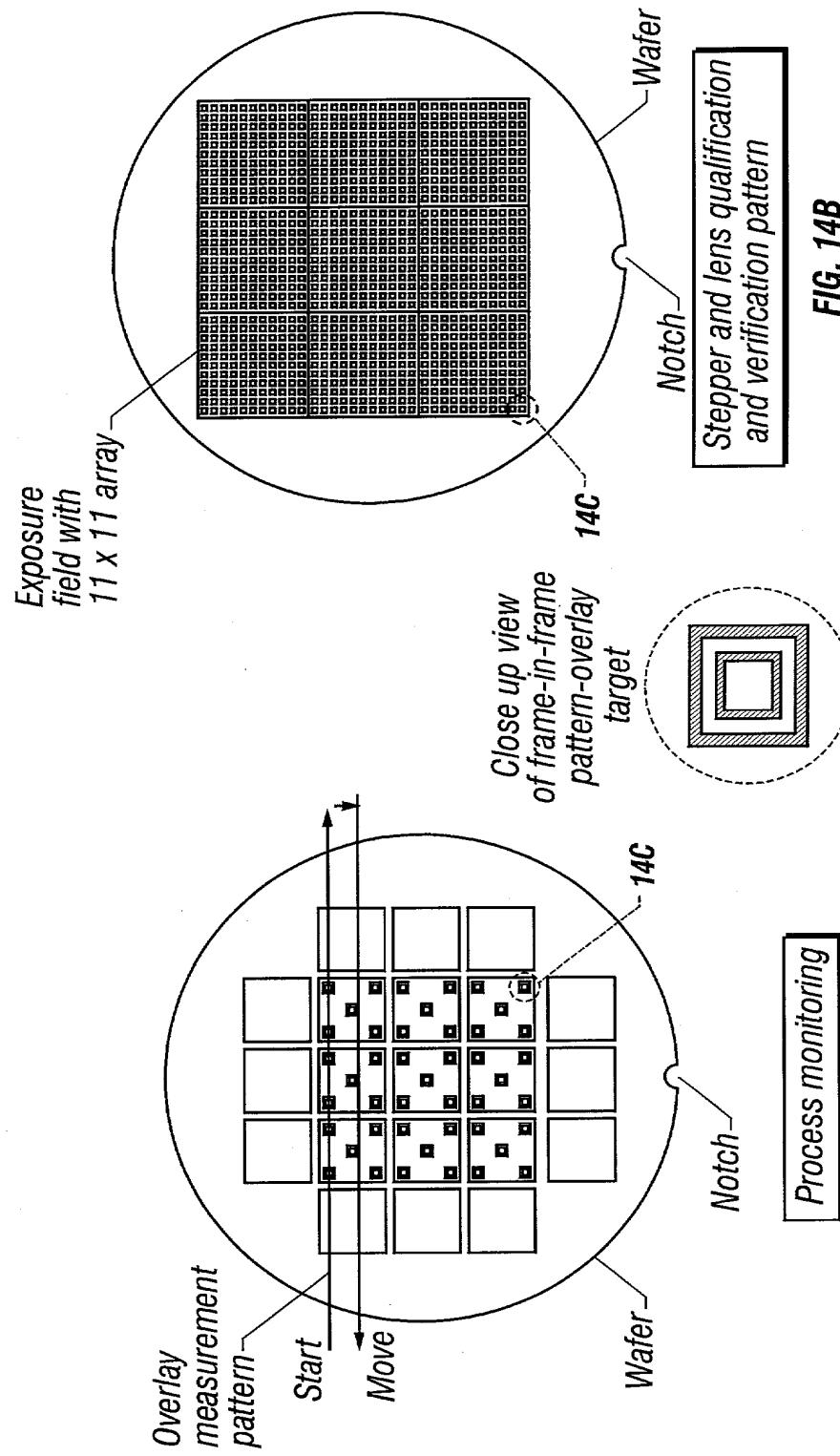
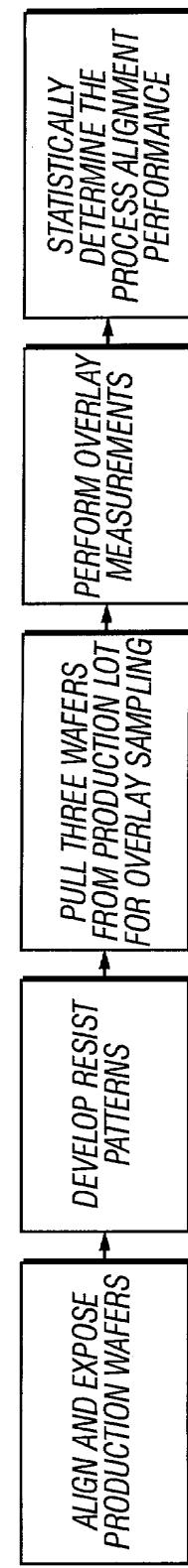
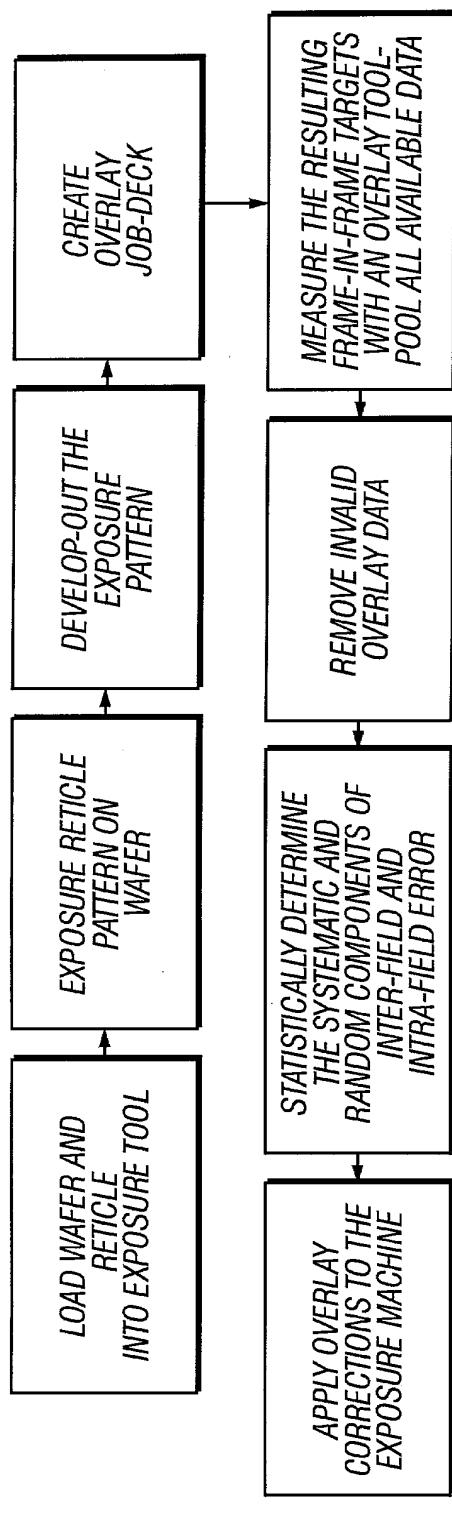


FIG. 14A
FIG. 14C

FIG. 14B



16/16

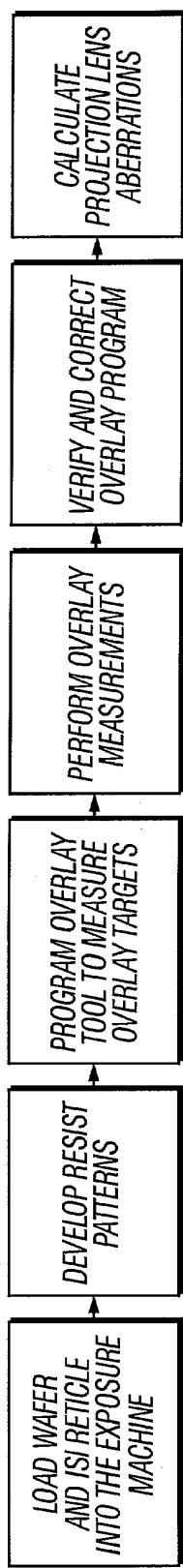


FIG. 15C